

**BY ORDER OF THE COMMANDER  
12TH FLYING TRAINING WING**

**12TH FLYING TRAINING  
INSTRUCTION 21-104**



**8 MARCH 2012**

***Maintenance***

***FOREIGN OBJECT DAMAGE PREVENTION  
AND DROPPED OBJECT PREVENTION***

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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(Mr. Robert West)

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*, 25 Feb 2003 and extends the guidance in AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 Jul 10. It outlines specific responsibilities for the implementation of the 12th Flying Training Wing's Foreign Object Damage (FOD) Prevention and Dropped Object Prevention (DOP) Programs. It is applicable to all base agencies (military, civilian, and contractors) that have personnel working in, around, or traveling through flightline designated areas. Group Commanders/Squadron Commanders will ensure all personnel are familiar with these procedures to minimize potential FOD to aircraft and support equipment. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route the AF Forms 847 from the field through the appropriate functional's chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the AF Records Disposition Schedule (AF RDS) located at: <https://www.my.af.mil/afrms/afirms/afirms/rims.cfm>.

***SUMMARY OF CHANGES***

**This document is substantially revised and must be completely reviewed.** The major change to this publication is the naming convention change from "RANDOLPHAFBI" to "12FTWI" due to Joint Basing. Additionally this revision includes a change of the OPR and certifier. AFI 21-101 has changed from *Aerospace Equipment Maintenance Management* to *Aircraft and*

*Equipment Maintenance Management.* The Quality Assurance Division has changed from MXQ to MXO. Any reference to the T-43 aircraft has been removed from this instruction.

## **1. Responsibilities:**

### **1.1. Group/Squadron Commanders will:**

#### **1.1.1. Ensure all personnel working in or traveling through flightline areas receive a FOD**

1.1.1.1. As a minimum the briefing should include: location of designated flightline entry control points (ECP), FO tire checks before entering the ECP, procedures for reporting actual or potential FO, and vehicle operations around parked and taxiing aircraft.

#### **1.1.2. Designate personnel as applicable that are responsible for group/squadron FOD prevention and forward a copy of the appointment letter to the Wing FOD Monitor, 12 FTW/MXO.**

1.1.2.1. Units requiring FOD prevention monitors include T-1, T-6, and T-38 Flying Training Squadrons, Aircraft Maintenance Divisions, Logistics Readiness Division, Security Forces Squadron, Civil Engineer and Contractors working in or around flightline areas. Others may be tasked as deemed necessary by the Wing/CV or FOD Program Monitor.

### **1.2. The 12th Flying Training Wing Maintenance Directorate (12 FTW/MX) and 12th Operations Group (12 OG) will monitor FOD prevention practices and procedures incidental to their respective daily flying operations.**

### **1.3. The 12th Civil Engineering Squadron will ensure airfield sweepers and related equipment are adequately maintained to support cleanup of aircraft parking, taxiway, and runway areas.**

1.3.1. Sweeper/equipment status and condition will be briefed at scheduled FOD prevention meetings.

### **1.4. The Wing Airfield Manager will:**

1.4.1. Routinely assess the overall condition of aircraft parking areas, runways, and taxiways. Appropriate action will be taken to correct discrepancies when noted.

1.4.1.1. The condition of the airfield will be briefed at scheduled FOD meetings to include any new or on-going construction projects that may impact safe operation of aircraft.

1.4.2. Ensure aircraft parking, runway, taxiways and hangar aprons are swept on a regular basis to minimize FOD potential.

### **1.5. The 12 FTW/MX will:**

1.5.1. Comply with additional FOD prevention procedures as directed in AFI 21-101, *Aircraft and Equipment Maintenance Management*, and local Maintenance Operating Instructions (MOI).

1.6. Vehicle Control Officers will:

1.6.1. Ensure personnel have received the appropriate training prior to issuing flightline driving permits.

**2. FOD Prevention Meetings:**

2.1. FOD Prevention Meetings will be conducted quarterly and chaired by the 12 FTW/CV or 12 FTW/MX Director in the 12 FTW/CV's absence.

2.1.1. Minimum attendees/representatives for the meetings will include: Group Commanders, Wing Safety, Civil Engineer, Airfield Manager, Wing FOD Monitor, Aircraft Maintenance Divisions, and Security Forces. The 12 FTW/CV may designate additional attendees as needed.

2.1.2. Recommended agenda items discussed during the meeting include: mechanical/vacuum sweeper status, identification of potential FOD sources, lost tools/items, dropped objects, cockpit FOD incidents, airfield condition, reportable FOD incidents, and new initiatives/actions to minimize FOD.

2.1.3. The meeting may also be used as a forum to recognize personnel that have made significant contributions to the FOD prevention program.

2.2. A monthly FOD meeting will be initiated when FOD incidents exceed the MAJCOM established standard. The focus of these meetings will be to discuss negative trends and to develop appropriate action plans to resolve them.

**3. FOD Prevention Procedures:**

3.1. Special attention will be given to small items of debris (i.e., safety wire, bolts, nuts, screws) during maintenance on aircraft and support equipment. Items of this nature will be placed in FO bags or containers.

3.2. Metal insignia or similar uniform items will not be worn on the flightline. Some badges may be worn under the following conditions:

3.2.1. Restricted area badges and base exercise evaluation team (EET) badges will be secured to the individual's clothing with a subdued/cotton cord or plastic armband when worn in flightline areas.

3.3. Wigs, hairpieces, metal hair fasteners, earrings, or any other jewelry that may fall off without notice, are not authorized on the flightline.

3.4. During engine maintenance and operations, no items will be placed near aircraft intakes or on canopy sills.

3.5. Hats/berets will not be worn within 25 feet of aircraft operating engines.

3.6. Aircraft forms are potential FOD hazards on the flightline. They will be secured when subject to jet blast from a taxiing aircraft and will be stored during periods of inclement weather such as high winds.

3.7. Before entering the cockpit/cabin of an aircraft, personnel will ensure pockets are emptied and loose articles are secured. If tools are required for maintenance or flight operations they will be strictly controlled and accounted for before and after any work that is accomplished on the aircraft.

3.8. Vehicles normally driven on the flightline will be equipped with secured and lidded FO containers. The containers will be stenciled with the word "FOD" in contrasting letters no smaller than two inches. FOD containers will be emptied when full or once a day, whichever comes first.

3.8.1. Vehicle operators will perform tire FO checks prior to entering flightline entry control points or other accessible areas. FO removed from tires will be placed in the vehicle FO container.

3.9. FOD walks are mandatory to remove FO from ramps, runways, and access roads; in addition vacuum sweepers will be used to the fullest extent to supplement FOD walks.

3.10. All personnel working in flightline areas should be alert to potential FOD hazards. When discrepancies are noted (loose debris, rocks, deteriorated taxi/runways, etc.) immediately contact the Maintenance Operations Center (MOC) at 652-4428 to report the problem.

3.11. Personal tools not controlled through a consolidated tool kit (CTK) are not authorized on the flightline, or in any maintenance area (e.g. Mini-Mag type flashlights, Leatherman type multi-tools, buck knives). The only exceptions are items deemed necessary for flight by the pilot during scheduled missions.

3.12. Work centers directly involved in aircraft maintenance will mark and control tools for accountability and inventory purposes. Contact the Aircraft Maintenance Quality Assurance Division (12 FTW/MXO) at 652-5558 for guidance on proper marking of CTK items.

3.13. Lost Tool/Item:

3.13.1. Maintenance personnel will account for tools before and after each maintenance task. Aircrew members will account for personal items before and after each flight. If the aircraft is off-station, the aircrew will contact the MOC to inform them of the lost tool/item.

3.13.2. The individual identifying the missing tool/item will initially search the immediate work area. If not found, inform the flightline expediter/production supervisor, MOC or Wing Command Post as applicable depending on aircraft location.

3.13.3. Place a Red "X" in the affected aircraft forms with a description of the tool/item and specific last known location. Perform a thorough search for the tool/item and if still not found initiate a lost tool/item report using AETC IMT 138, *Lost Tool or Item Investigation Record*.

3.13.3.1. Maintenance personnel will follow additional guidance published in AFI 21-101 and local maintenance operating instructions (MOI).

3.13.3.2. The search for a lost tool/item may be terminated by the 12 FTW/MX Director of Maintenance (DOM), Division Chief, or Production Supervisor after all published procedures to find the item has been exhausted. **Note:** Aircraft off-station

will be coordinated through the 12th FTW MX/Director of Maintenance and OG/CC to determine safety of flight prior to returning to home station.

3.13.4. Upon completion of the lost tool/item report, submit a copy of the form AETC IMT 138 to 12th FTW/MXO, Quality Assurance Division, for filing purposes.

#### **4. Dropped Object Prevention Program**

4.1. Dropped Object: A dropped object is any aircraft part, component, surface, or other item lost during aircrew operations, unless intentionally jettisoned from engine start to engine shutdown.

4.2. Reporting: 12 FTW MXO will notify the base/wing safety office of all dropped objects. The initial dropped object report will be made to the MAJCOM via telephone, e-mail, or message. If it involves casualties, property damage, or if adverse publicity is likely, report IAW AFMAN 10-206, *Operational Reporting*.

4.3. Transient Aircraft. The local wing DOP monitor will be responsible to investigate dropped objects from a transient aircraft. The wing DOP monitor will provide the home station DOP monitor with sufficient data to generate a report for trending and tracking purposes.

RICHARD M. MURPHY, Colonel, USAF  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 21-101, *Aerospace Equipment Maintenance Management*, 26 Jul 2010.

***Adopted Form***

AF Form 847, Recommendation for Change of Publication, 22 Sep 2009

***Abbreviations and Acronyms***

**CTK**— Consolidated Tool Kit

**DOM**— Director of Maintenance

**DOP**—Dropped Object Program

**ECP**— Entry control points

**EET**— Exercise Evaluation Team

**FO**— Foreign Object

**MOC**— Maintenance Operations Center

**MOI**— Maintenance Operating Instructions

**12 FTW/MX**—12th Maintenance Directorate

**12 OG**—12th Operations Group

***Terms***

**FOD**—Any damage to an aircraft, engine, aircraft system, component, tire, munitions, or support equipment caused by a foreign object (FO) which may or may not degrade the required safety and/or operational characteristics of the aforementioned item(s).

**Aircraft Movement Area**—Any designated area an aircraft can taxi/takeoff under its own power or be towed during maintenance operations (i.e., taxiways, parking ramps, and runways).

**Flightline Area**—Designated aircraft parking areas, entrance points, and facilities where maintenance is conducted and aircraft are launched and recovered.

**Lost Tool and Item**—Any controlled tool a maintenance technician discovers missing or personal item an Aircrew member can't account for after flight. Examples of lost tools or items include: missing tools from consolidated tool kits, pencils, ear plugs etc.